

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A sandwich structure (2) comprising a core (20) and two facings (21, 22) between which the core is placed, the core (20) being formed from a mineral-fiber-based product (1) obtained by a process involving internal centrifugation combined with attenuation by a high-temperature gas stream, characterized in that the mineral fibers are crimped and the fiber distribution over a section substantially parallel to the surface of the facings has a substantially V-shaped profile, the V-shaped profile of the fiber distribution extends over the entire width of the lamellae and the tips of the Vs are substantially aligned.

Claim 2 (Cancelled).

Claim 3 (Currently Amended): The sandwich structure as claimed in claim 1, ~~characterized in that~~ wherein the core comprises a plurality of juxtaposed lamellae (25) that extend along the main extension of the facings, the lamellae being formed from the product (1) based on crimped mineral fibers.

Claim 4 (Cancelled).

Claim 5 (Currently Amended): The sandwich structure as claimed in claim 1, which ~~has a~~ ~~characterized in that its~~ density is of at most equal to 80 kg/m<sup>3</sup>.

Claim 6 (Currently Amended): The sandwich structure as claimed in claim 1, ~~characterized in that it~~ which has a compressive strength of at least 60 kPa.

Claim 7 (Currently Amended): The sandwich structure as claimed in claim 1, ~~characterized in that it~~ which has a shear strength of at least 60 kPa.

Claim 8 (Currently Amended): The sandwich structure as claimed in claim 1, ~~characterized in that~~ wherein the mineral fibers are obtained from ~~the following~~ a glass composition in proportions by weight comprising:  $\text{SiO}_2$  in an amount of 57 to 70%;  $\text{Al}_2\text{O}_3$  in an amount of 0 to 5%; CaO in an amount of 5 to 10%; MgO in an amount of 0 to 5%;  $\text{Na}_2\text{O} + \text{K}_2\text{O}$  in an amount of 13 to 18%;  $\text{B}_2\text{O}_3$  in an amount of 2 to 12%; F in an amount of 0 to 1.5%;  $\text{P}_2\text{O}_5$  in an amount of 0 to 4%; impurities in an amount less than 2%.

|  |           |
|--|-----------|
| $\text{SiO}_2$                             | 57 to 70% |
| $\text{Al}_2\text{O}_3$                    | 0 to 5%   |
| CaO  | 5 to 10%  |
| MgO  | 0 to 5%   |
| $\text{Na}_2\text{O} + \text{K}_2\text{O}$ | 13 to 18% |
| $\text{B}_2\text{O}_3$                     | 2 to 12%  |
| F  | 0 to 1.5% |
| $\text{P}_2\text{O}_5$                     | 0 to 4%   |
| Impurities                                 | < 2%      |

and contain more than 0.1% by weight of phosphorus pentoxide when the weight percentage of alumina is equal to or greater than 1%.

Claim 9 (Currently Amended): The sandwich structure as claimed in claim 1, ~~characterized in that~~ wherein the mineral fibers are obtained from ~~the following~~ a glass composition in mol% comprising:  $\text{SiO}_2$  in an amount of 55-70;  $\text{B}_2\text{O}_3$  in an amount of 0-5;  $\text{Al}_2\text{O}_3$  in an amount of 0-3;  $\text{TiO}_2$  in an amount of 0-6; Iron oxides in an amount of 0-2; MgO

in an amount of 0-5; CaO in an amount of 8-24; Na<sub>2</sub>O in an amount of 10-20; K<sub>2</sub>O in an amount of 0-5; Fluoride in an amount of 0-2

|                                |       |
|--------------------------------|-------|
| SiO <sub>2</sub>               | 55-70 |
| B <sub>2</sub> O <sub>3</sub>  | 0-5   |
| Al <sub>2</sub> O <sub>3</sub> | 0-3   |
| TiO <sub>2</sub>               | 0-6   |
| Iron oxides                    | 0-2   |
| MgO                            | 0-5   |
| CaO                            | 8-24  |
| Na <sub>2</sub> O              | 10-20 |
| K <sub>2</sub> O               | 0-5   |
| Fluoride                       | 0-2   |

Claim 10 (Currently Amended): The sandwich structure as claimed in claim 1, ~~characterized in that~~ wherein the mineral fibers are obtained from the following a glass composition in percentages by weight comprising, the alumina content preferably being greater than or equal to 16% by weight: SiO<sub>2</sub> in an amount of 35-60 %; Al<sub>2</sub>O<sub>3</sub> in an amount of 12-27 %; CaO in an amount of 0-35 %; MgO in an amount of 0-30 %; Na<sub>2</sub>O in an amount of 0-17 %; K<sub>2</sub>O in an amount of 0-17 %; R<sub>2</sub>O ( Na<sub>2</sub>O + K<sub>2</sub>O) in an amount of 10-17 %; P<sub>2</sub>O<sub>5</sub> in an amount of 0-5 %; Fe<sub>2</sub>O<sub>3</sub> in an amount of 0-20 %; B<sub>2</sub>O<sub>3</sub> in an amount of 0-8 %; TiO<sub>2</sub> in an amount of 0-3%; SiO<sub>2</sub> in an amount of 35-60 %; Al<sub>2</sub>O<sub>3</sub> in an amount of 12-27 %; CaO in an amount of 0-35 %; MgO in an amount of 0-30 %; Na<sub>2</sub>O in an amount of 0-17 %; K<sub>2</sub>O in an amount of 0-17 %; R<sub>2</sub>O ( Na<sub>2</sub>O + K<sub>2</sub>O) in an amount of 10-17 %; P<sub>2</sub>O<sub>5</sub> in an amount of 0-5 %; in an amount of Fe<sub>2</sub>O<sub>3</sub> in an amount of 0-20 %; B<sub>2</sub>O<sub>3</sub> in an amount of 0-8 %; and TiO<sub>2</sub> in an amount of 0-3%

|                  |         |
|------------------|---------|
| SiO <sub>2</sub> | 35-60 % |
|------------------|---------|

|   |        |
|---|--------|
| $\text{Al}_2\text{O}_3$   | 12-27% |
| $\text{CaO}$  | 0-35%  |
| $\text{MgO}$  | 0-30%  |
| $\text{Na}_2\text{O}$   | 0-17%  |
| $\text{K}_2\text{O}$  | 0-17%  |
| $\text{R}_2\text{O} (\text{Na}_2\text{O} + \text{K}_2\text{O})$ | 10-17% |
| $\text{P}_2\text{O}_5$  | 0-5%   |
| $\text{Fe}_2\text{O}_3$   | 0-20%  |
| $\text{B}_2\text{O}_3$  | 0-8%   |
| $\text{TiO}_2$  | 0-3%   |

Claim 11 (Currently Amended): The sandwich structure as claimed in claim 1, ~~characterized in that~~ wherein the facings (21, 22) are made of sheet metal.

Claim 12 (Canceled).

Claim 13 (Currently Amended): A process for manufacturing a structure of claim 1, ~~characterized in that it consists in~~ comprising:

- delivering, on a plane (P), the a product (1) based on mineral fibers obtained by an internal centrifugation process;
- crimping the product (1);
- cutting the crimped product into lamellae (25);
- turning the lamellae (25) through 90° with respect to the plane (P); and
- juxtaposing the lamella and assembling them between the two facings (21, 22).

Claim 14 (Currently Amended): The process as claimed in claim 13, ~~characterized in that wherein~~ the fibers of the product (4) are crimped by ~~means of~~ with a crimping unit (31) comprising at least a first pair (310, 311) and a second pair (312, 313) of conveyors between which the product runs in order to be compressed both longitudinally and in its thickness, which conveyors have speeds V1 and V2 respectively, the ratio of the speeds  $R = V1/V2$  being greater than or equal to 3, and also ~~compression means (315)~~ a compressor that reduce the product to its final thickness e, the H/e ratio being greater than or equal to 1.2, H corresponding to the height between the conveyors of the second pair (312, 313).

Claim 15 (Currently Amended): A method of ~~construction using~~ constructing at least one architectural insulation element, of the roof, partition or wall-cladding panel, ~~characterized in that wherein~~ the at least one architectural insulation element is formed by assembling sandwich structures as claimed in claim 1.

Claim 16 (Currently Amended): The method of construction as claimed in claim 15, ~~characterized in that wherein~~ the sandwich structures are butted and joined together by interlocking of their ends (23, 24), which have mutually cooperating shapes.

Claim 17 (Currently Amended): The sandwich structure as claimed in claim 2, ~~characterized in that it~~ which has a compressive strength of at least 60 kPa.

Claim 18 (Currently Amended): The sandwich structure as claimed in claim 3, ~~characterized in that it~~ which has a compressive strength of at least 60 kPa.

Claim 19 (Currently Amended): The sandwich structure as claimed in claim 4,  
~~characterized in that it~~ which has a compressive strength of at least 60 kPa.

Claim 20 (Currently Amended): The sandwich structure as claimed in claim 5,  
~~characterized in that it~~ which has a compressive strength of at least 60 kPa.

Claim 21 (Currently Amended): The sandwich structure as claimed in claim 2,  
~~characterized in that it~~ which has a shear strength of at least 60 kPa.

Claim 22 (New) The sandwich structure as claimed in claim 10, wherein the alumina  
content is greater than or equal to 16% by weight.